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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,350	02/09/2005	Sergey Vasilievich Marutian	P06835US00	2639

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DES MOINES, IA 50309-2721

EXAMINER

BAREFORD, KATHERINE A

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 06/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/500,350

Applicant(s)

MARUTIAN ET AL.

Examiner

Katherine A. Bareford

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.
2. The disclosure is objected to because of the following informalities: the provided specification is 5 pages long. At page 2, there is a section entitled "Summary of the invention" which continues until the end of the specification. However, as worded this section clearly includes what would be the "Description of the Invention" and the specification should be divided to reflect this. Moreover, the disclosure also contained figure ¹⁻⁵~~figures~~ and the figures have numerous cited element numbers including 1-22, 31, 33-35, 37, 39, 40, 41, 43 and 45. None of these figures or the cited element numbers have been discussed in the specification as required and no "Brief Description of the Drawings" as been provided as required.

Appropriate correction is required.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 1-22, 31, 33-35, 37, 39, 40, 41, 43 and 45 (see the discussion in paragraph 2 above).

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Information Disclosure Statement

4. The information disclosure statement filed June 25, 2004 (as to citation numbers 5 and 6) fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the listing of citation numbers 5 and 6 on the Information Disclosure Statement form 1449 are not in a legible format. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements

based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Objections

5. Claim 1 is objected to because of the following informalities: (1) A single claim has been provided, and as such should be labeled claim 1. (2) Claim 1, line 4, "and the aluminum melt" should be "and that the aluminum melt" for proper grammatical usage. (3) Claim 1, line 5, "of" should be "in" for proper grammatical usage.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 1, "the" should be deleted before "aluminum coatings" as the phrase "the aluminum coatings" lacks antecedent basis.

Claim 1, line 1, "aluminum coatings" should be "aluminum alloy coatings" to correspond to the alloy taught further in the claim.

Claim 1, lines 2-4, applicant should clarify that the "product surface preparing" of line 2 includes the "jet-abrasive preparing of line 3-4".

Claim 1, line 2, "consequent" should apparently be "then" or "followed by".

Claim 1, line 3, "the aluminum melt" should be "an aluminum melt" for proper antecedent basis.

Claim 1, line 3, after "zinc and silicon" applicant should provide a positive recitation that this plunging performs the referred to application of the coating.

Claim 1, last line, applicant should clarify when during the process the melt is at the claimed temperature range.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not

commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Higuchi et al (US 5853806) in view of Japan 50-005213 (hereinafter '213).

Higuchi teaches a method of applying aluminum alloy coatings on steel products. Column 1, lines 10-20. Higuchi teaches that the product is first prepared for coating. Column 5, lines 50-65 and column 16, lines 15-30. The preparation can include grit blasting (which would be a jet abrasive) the product. Column 5, lines 50-65 and column 16, lines 15-20. Higuchi then teaches that the prepared product is then plunged into a hot dip aluminum alloy melt bath to coat the product with the aluminum alloy. Column 16, lines 30-45, for example. The temperature of the bath can be 580 to 700 degrees C, preferably 610 degrees C to 680 degrees C. column 6, lines 55-60. For example, the bath temperature can be 660 degrees C. column 16, lines 30-35. Higuchi further teaches that the bath can include aluminum alloyed with zinc, silicon, magnesium and tin materials. Column 10, lines 1-30. The amount of zinc is taught to be 20-65 wt% percent. Column 10, lines 1-30. The amount of silicon is taught to be 0.5 to 3.5 wt%. Column 10, lines 1-30. The amounts of magnesium and tin are taught to be small amounts. Column 10, lines 5-10. For example, the magnesium amount can be 0.5 wt%. Column 16, lines 30-35.

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y/b Higuchi teaches all the features of these ^{is} ~~claims~~ except the precise amounts of zinc, magnesium, and tin to be used with the aluminum and silicon.

However, '213 teaches that a desirable aluminum alloy composition for improved corrosion resistance includes 2-18 % silicon, 2-8 % zinc, 0-2% magnesium and 0.1-1.5% Sn. See the Abstract.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Higuchi to performing the hot dip coating of the aluminum alloy using an alloy with the components and range taught by '213 with an expectation of providing a desirably corrosion resistant plated article, because Higuchi teaches a desirable method for providing hot dip coating of an aluminum alloy on a steel product using an aluminum alloy that can contain aluminum, zinc, silicon, magnesium and tin and '213 teaches a desirable aluminum alloy containing aluminum, zinc, silicon, magnesium and tin for improved corrosion protection. It would further have been obvious to optimize within the taught range of '213 to determine the optimum or workable ranges by routine experimentation. See *In re Aller*, 200 F.2d 454, 105 USPQ 233 (CCPA 1955). The Examiner understands the ranges given in '213 to be in weight percent as the description is in the conventional format for describing weight percent of alloys.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (571) 272-1413. The examiner can normally be reached on M-F(6:00-3:30) with the First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and for After Final communications.

Other inquiries can be directed to the Tech Center 1700 telephone number at (571) 272-1700.

Furthermore, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


KATHERINE BAREFORD
PRIMARY EXAMINER